

**SUBJECT : COMPUTER SCIENCE (SET-II)****Time : 3 Hrs.****M.M.: 70****General Instructions :****i) All questions are compulsory.****ii) Programming Language : C++**

- Q1. (a) What is meant by the term multitasking? (1)
- (b) State the basic units of the computer. Name the subunits that make up the CPU. (2)
- (c) What is the significance of Taskbar? (1)
- (d) Define Polymorphism. (2)
- (e) How are floating point constants represented in C++? Give examples to support your answer. (2)
- Q2. (a) How are integer constants represented in C++? Give an example. (2)
- (b) What is the difference between 'z' and "z" in C++? (1)
- (c) Write a program that accepts marks in five subjects and outputs the average marks. (2)
- (d) What is the difference between runtime error and logical error? Give one example of each. (2)
- (e) What is a variable? How many values are associated with it? (1)
- Q3. (a) Write declarations for : (3)
- (i) an integer
- (ii) an unsigned integer with the value 31240
- (iii) a reference to an integer number
- (b) How are keywords different from identifiers? (2)
- (c) Write a program to read the values of Principle, Rate & Time and compute simple interest. (2)



(d) Discuss the function of conditional operator with an example. (2)

(e) What will be the output of the following code fragment if the input given is (i) 4000 (ii) 3800? (2)

```
int year; (2)
```

```
cin >> year;
```

```
if (year % 100 == 0)
```

```
    if (year % 400 == 0)
```

```
        cout << "LEAP";
```

```
    else
```

```
        cout << "Not century year";
```

Q4. (a) What will be the value of the following if j = 5 initially? (1)

(i)  $(5 * ++j) \% 6$

(ii)  $(5 * j++) \% 6$

(b) What is type conversion? What is meant by explicit conversion? (2)

(c) Write a program to input any number and to check whether given number is positive, negative or zero. (2)

(d) Construct logical expression to represent the following conditions : (2)

(i) ch is lower case character.

(ii) grade is 'B' and experience is more than 5 years.

(e) What is an Iteration statement? Which iteration statements does c++ provide? (2)

(f) Write a C++ program to input any number and to check whether given number is Palindrome or not. (3)

Q5. (a) What is meant by exit controlled loop? Which C++ loops are exit controlled? (2)

(b) Write a do-while loop that displays even numbers from 2 to 20. (1)

(c) Rewrite the following code fragment using switch :  
char code; (2)

```
cin >> code;
```

```
if (code == 'A')
```

```
    cout << "Accountant";
```

```
else
```

```
if (code == 'C' || code == 'G')
```

```
    cout << "Grade IV";
```

```
else
```

```
if (code == 'F')
```

```
    cout << "Financial Advisor";
```

(d) Predict the output of the following fragments :

(i) if (0) (1)

```
    cout << "Third Time Tricky";
```

```
    cout << "Am I Right?";
```

(ii) for (outer = 0; outer < 3; ++outer) (2)

```
    for (inner = 0; inner <= 5; ++inner)
```

```
        cout << inner << '\t' << inner << endl;
```

(e) Write a C++ program to check whether a number is armstrong or not. (3)

Q6. (a) Identify the errors in the following code segment and rewrite the corrected code underlining the corrections made. (2)

```
value = 4;
```

```
do;
```

```
{
```

```
    total += value;
```

```
    cout << total;
```

```
while value <= 8;
```



- (b) Given the following code fragment : (2)

```
const int num = 25;
for (int i = 0, sum = 0; i < num; i++)
    sum + = i;
cout << sum;
```

Rewrite the above code using a while loop.

- (c) Name any two jump statements provided by C++. (1)

- (d) How many times is the following loop executed? (2)

```
int s = 0, i = 0;
do
```

```
    s + = i;
```

```
while (i < 5);
```

- (c) Write a C++ program to find the factorial of a number input by the user. (3)

- Q7. (a) Name the header file to which the following built-in functions belong to. (2)

(i) setprecision ( )      (ii) islower ( )

(iii) puts ( )            (iv) pow ( )

- (b) Write a C++ program that checks whether a given character is an alphabet or not. If it is an alphabet, check whether it is a lower case character or an uppercase character. (3)

- (c) Differentiate between strcat ( ) and strcmp ( ) functions. (2)

- (d) Write a program to find the sum of the following series: (3)

$$S = 2^2 + 4^2 + 6^2 + \dots + n^2$$